

REMARKS/ARGUMENTS

Applicants have canceled claims 3 and 6 and amended claims 1, 4, 9, 14, and 17. After entering this amendment, claims 1-2, 4-5, and 7-18 will be pending in this application.

In the March 29, 2004 Office Action, the Examiner objected to Figure 1 of the drawings, stating that characters 16, 26 and 44 were not clear. The attached replacement drawing for Figure 1 has been amended to clarify the components that reference characters 16, 26, and 44 identify.

Applicants also note that, in the Office Action, the Examiner referred to the drawings "submitted on March 23, 2001." Applicants respectfully refer the Examiner to the formal drawings filed on July 18, 2001. Applicants have attached a proposed replacement drawing sheet for Figure 1; this replacement sheet is meant to replace the drawing sheet for Figure 1 filed on July 18, 2001.

The Examiner rejected claims 1-18 (including independent claims 1, 14, and 17) under 35 U.S.C. §103(a) as unpatentable over Martinsky (U.S. Pat. No. 6,101,946) in view of Van Breeman et al. (U.S. Pat. No. 4,080,607). The Examiner asserts that one of ordinary skill in the art would have been motivated to modify Martinsky, which the Examiner asserts discloses a microarray spotting instrument, by using the printhead assembly of Van Breeman because Van Breeman discloses a printhead that can be accurately reassembled after cleaning or refurbishing. Applicants submit that the combination of Martinsky and Van Breeman does not disclose all of the features of Applicants' claimed invention. Applicants respectfully request reconsideration.

The Van Breeman patent discloses a mounting system that uses balls 48-50 on a lower assembly 42 that mate with rests 45-47 on an upper assembly 41. (Col. 6, ll. 4-13, Fig. 1). Rest 45 includes a "conical recess 89" to mate with ball 48. (Col. 6, ll. 34-45, Figs. 24, 27). Rest 46 "is provided with a vee-type recess 93 in foot 91" to engage ball 49. (Col. 6, ll. 45-54, Figs. 25-26). The Van Breeman patent states:

The interface between upper assembly 41 and lower assembly 42 is defined by three precision steel balls 48 through 50 and three rests 45 through 47. These three rests respectively have *conically shaped, vee-shaped, and flat feet* as hereinafter described in detail.

(Col. 4, ll. 6-10) (emphasis added).

The Van Breeman patent describes the adjustments that are necessary to adjust the balls 48-50 to mate with the rests 45-47:

Referring now to FIG. 24, it will be seen that the conical recess 89 in foot 88 of rest 45 is positioned off center from the axis of shank 193. This means the center of conical recess 89 traces out a circular path as shown by the dotted circle 90 in FIG. 27 when shank 193 of rest 45 is rotated. ***Thus, it is possible to provide horizontal adjustment in two directions*** by loosening nut 192 of FIG. 23 and accurately moving adjustment arm 85. The manufacturing and assembly tolerances of head 40 are such that the ***small amount of adjustment so provided is all that is ever required.***

Having adjusted rest 45 as above described, it is necessary to make a similar adjustment to rest 46. ... Since rest 46 is provided with a vee-type recess 93 in foot 91, rotation of rectangular upper portion 87 by an associated adjustment arm produces one dimensional movement of upper assembly 41 relative to a ball in mating engagement with recess 93. This relative motion is indicated by the double arrow 128 of FIG. 26.
(Col. 6, ll. 34-54) (Emphasis added).

Unlike Applicants' claimed invention in independent claims 1 and 14, the Van Breeman patent does not disclose the use of "dowel pins" to contact the ball mounts. As set forth above, Van Breeman instead discloses "conically shaped, vee-shaped, and flat feet" for the three rests for balls 48-50. The use of dowel pins can simplify the mounting system in that three different geometries are not necessary. In addition, the dowel pins can, in some embodiments, be simply pressed into drilled holes, resulting in a simpler and cheaper mechanism than the combination of the "conically shaped, vee-shaped, and flat feet" for the three rests described in the Van Breeman patent.

Unlike Applicants' claimed invention of independent claim 17, the Van Breeman patent discloses a system that has adjustments built into one side of the mounting system. As set forth above, the Van Breeman patent describes adjustments for rests 45 and 46. In Applicants' claimed invention, the mounting system itself is "non-adjustable"; the two pieces can simply be brought together and clamped. Such a non-adjustable approach can be repeated more easily than an adjustable approach.

Appln. No. 09/815,632
Amdt. dated August 30, 2004
Reply to Office Action of March 29, 2004

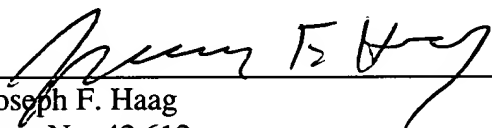
For the reasons stated above, Applicants believe that the claims now pending in this application are allowable and therefore ask the Examiner to allow them to issue.

Applicants further submit a Petition and fee for a two-month extension of Time for Response.

Please apply any charges not covered, or any credits, to Deposit Account No. 08-0219.

Respectfully submitted,

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